

Appl. No. 10/021,314
Amdt. dated December 9, 2003
Reply to Office Action of September 10, 2003

REMARKS

Reconsideration and allowance of this application, as amended, are respectfully requested.

A substitute sheet of drawing containing Figure 4 is provided which corrects the spelling error noted by the Examiner.

The claims have been amended to correct the informalities noted by the Examiner.

The prior art grounds of rejection are respectfully rejected and the claims are amended.

Amended claims 1, 2 and 4 include a controller that performs a head contact avoidance operation that changes the floating state of a head and then restores it to a normal floating state when continuous contact (for a predetermined period of time) of the head with a surface of a disk is detected. The head contact avoidance operation changes the head from the normal state to a different state, and immediately restores normal floating state operation of the head.

When a disturbance such as vibration is detected in a low-pressure state, the flying height of the head may lowers, thereby causing the head to be in continuous contact with the surface of the disk. In such a case, the controller restores the normal floating state of the head by causing the head contact avoidance operation to be carried out.

Amended claim 2 describes a specific embodiment of the head contact avoidance operation, which is to increase the rotational speed of the disk above the normal rotational speed, and to restore the normal rotational speed to the disk (see S13 and S14 in FIG. 5).

Amended claim 4 describes another specific embodiment of the head contact avoidance operation, which is to carry out an unload operation of moving the head to a rest position outside the disk from an operation position above the disk, and to carry out a load

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operation of returning the head from the rest position to the operating position (see S6 in FIG. 4 and page 14, lines 17-22 of the specification).

The claimed combinations are not specifically taught or even suggested by the prior art of record.

Hiroaki (PAJ Publication No. 10-177774) discloses a controller that increases the rotational speed of a disk when pressure is below a certain level. However, the Hiroaki controller restores normal rotating speed to the disk after the pressure returns to the certain level (see Drawings 12 to 14).

On the other hand, our claimed inventions call for a controller that restores the normal rotating speed to the disk without waiting for the pressure to return to the certain level. Our claimed controller increases rotating speed and raises the flying height of the head, so as to restore the normal rotating speed to the disk.


Even if the disk drive were to operate in a low pressure state, our claimed inventions can recover the head from being in continuous contact with the surface of the disk by temporarily changing the floating state of the head, since disturbance such as vibration is only temporary. This claimed subject matter is not disclosed in Hiroaki, Uchike et al., or Ottensen et al.

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All outstanding matters having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

By: _____


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